

STUDIES IN QUESTIONED DOCUMENTS: NUMBER ONE

PHOTOCOPIES
IN DOCUMENT EXAMINATION

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1993 PREFACE

The bibliography has been augmented in 1993 with eight more citations. The main text has remained the same, since the information given is as complete and accurate as when first written.

There has been new technical information which has been published in the forensic literature, such as on methods of differentiating toners. This new technical information can be located through library research, standard indexing services, surveying of relevant journals or by referring to my index, WITNESSING TO THE TRUTH OF DOCUMENTS; AN INDEX TO PERIODICAL LITERATURE ON DOCUMENT EXAMINATION, HANDWRITING EXPERTISE AND EXPERT TESTIMONY. (31)

Since attorneys attempt to impeach expert testimony on the simple fact that only photocopies were available for examination, and indeed even some "experts" produce merely plausible explanations for their questionable defense of false documents on the same basis, may I urge the reader to give thoughtful consideration to the following quote:

"Dogged determination to study the original document has caused a rumor to arise and persist to the effect that if an original document is destroyed, the document expert is thwarted. While nothing could be further from fact, this has created an interesting situation. Cases are being received in increasing numbers where the original document, at the very outset of the inquiry, is stated to have been 'lost' or 'misplaced.' Once committed to this course, a client (who may be deceiving his own attorney) cannot later produce it." (23)

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"The crude forgery gets by simply because the vast majority of documents, being genuine, are given the most cursory inspection...." (8)

In this discussion technological methods will not be considered. They certainly must not be dismissed, and certainly the document examiner must know when they are applicable and which are called for in order to solve a particular problem.

The discussion must have some limits, and technical matters are not within my writing expertise. To find pertinent material on technical methods which you might need, refer to "WITNESSING TO THE TRUTH OF DOCUMENTS". (31)

This discussion will be divided into the following sections:

- A. General considerations.
- B. Some things to rouse suspicion.
- C. Kinds of forgery by photocopy.
- D. The initial inquiry.
- E. Investigating the copy qua document.
- F. Investigating the copy qua copy.
- G. Investigating the copier.
- H. Concluding thoughts.
- I. Bibliography.

A. GENERAL CONSIDERATIONS

"It has become apparent that the perpetrators of various crimes, aware of the possibility of their identification through the examinations of handwriting, typewriting, ink or paper, have resorted to the use of photocopies in an attempt to eliminate or obscure the identifiable features of original documents." (14)

This section covers information you most likely must obtain from others, particularly the attorney retaining your services. This not only provides a checklist of things you might need to know, but also of things you might have to advise the attorney to pursue.

First of all, bear in mind that a photocopy is definitely not a photograph. There is presently no copier that can give the details and accuracy that a quality photograph can. The two methods are chemically different. For descriptions of the manner in which copiers work, see items 4, 5 and 10 in the bibliography. A basic understanding of how copiers work is essential.

Every copy distorts the original in some way. To demonstrate this fact, make a first generation acetate copy on your own machine. Lay the acetate copy directly on top of the original and note that it does not cover all text and illustration exactly.

Each machine has its own limitations in reproducing the original. Studying the product of different kinds of machines by comparison with the original can teach you these limitations. For example, my own Sharp 7750 cannot reproduce burr striations of ballpoint pens. They come out as gaps in the writing line. You must bear possibilities like this in mind whenever you do examinations of copies, especially in handwriting identification.

The more background information you obtain the better off you will be. Naturally, we never have an ideal situation in document examination, no less than in any other area of life. But knowing what would be ideal and how best to get it will assure us the optimum conditions of work and the best results. It will also enable us to recognize the limitations of our work and when to give a prudently qualified opinion.

Information needed concerns the machines in question, the original document from which the questioned copy was made, the copy or copies themselves, every aspect of the document, persons making, having custody and handling the document, and those in whose interest the copy is put forth. Query the retaining attorney as much as you can in the circumstances.

For best results, you must have the original copy to study. Since every copy in some way distorts the original, there are things you can never know of the original from the copy, no matter how many copies you have of it. The second best situation is to have a first generation copy from a high quality machine in good condition and the originals of related documents.

Absence of evidence for fraudulent copying is in no way proof of the genuineness of the copy. It could just be a very good forgery. Never but never give a determination of genuineness of the original solely from study of a copy. You can, however, state what positive evidence of genuineness you find along with what type of evidence you cannot determine from the copy. To state it another way: A copy may hold evidence conclusively proving it to be fraudulent, but a copy can never show definitive evidence that it or its original is genuine.

There is simply no way of saying how many fraudulent photocopies are accepted as genuine. We all tend generally to accept all documents on face value. For example, the most common documents all of us deal with are coin and currency. When is the last time you studied any piece of money before receiving it to be absolutely, or even superficially, certain that it was good?

After these points have all been discussed, I hope we all develop a salutary skepticism about copies while avoiding paranoia. If we can make such skepticism contagious, we might both save many people loss through photocopy forgery and promote the useful services we have to offer.

All important originals should be protected. They should be kept in protective plastic covers and copies of

them used for ordinary purposes. Definitely we should neither handle documents carelessly nor improperly use destructive tests on them nor permit any unqualified examiner to handle them.

If key documents are sent from party to party, the method of insuring safe delivery should match their value. Many attorneys will only allow study of valuable documents within their law offices, unless there is solid reason otherwise and then sound protective measures taken.

Destructive tests, that is those that in any way alter or damage the document, ought only be allowed with the knowledge of all parties concerned. Once suit is filed, they ought only be employed with court permission. Be certain that you clearly and thoroughly discuss any such testing you think might be needed.

B. SOME THINGS TO ROUSE SUSPICION

"Every unsupported photocopy should be viewed with a degree of suspicion." (9)

Generally what would arouse suspicion regarding any document would apply more than equally to a copy, especially an unsupported copy. In "FORGERY: DETECTION AND DEFENSE" (14) I give eighteen such points for documents in general and twenty-seven under three kinds of handwriting forgery.

Many good articles have appeared over the years and several excellent books have been written which cover the topic. It is presumed any professional document expert has a mastery of these things.

There are some things that should rouse suspicion specifically concerning photocopies. The following seven points are generally expressed in various ways in the relevant writings cited in the bibliography.

1. The interested party has only the copy and has lost the original. The original, if it were available, would irrefutably establish the party's claim.

2. Various copies of the same document are different in some way. In one case I had, a real estate sales contract first appeared with many blank spaces and later the same document had some figures changed and blanks filled in. Yet the original, which simply did not exist, was the purported source of both copies. Amazing.

3. The person producing the copy seems to be rushing you. Remember, a con artist always wants to move things on expeditiously and stay in control at all times.

4. The key document is a very poor copy. This particularly is suspicious when other documents are copied with much better quality.

5. The copy was made solely as insurance against loss of the original. How fortuitous that the original then turned up missing. Is it a pattern with this party that the original never survives while the copy is never the one fortuitously lost?

6. Copies, which one would ordinarily expect to have been made, were not.

7. There is a lack of customary support in other documentation. Here is a hypothetical example: There is the invoice in copy submitted to the estate in probate, but there is no purchase request and no delivery document, though those were customary.

C. KINDS OF FORGERY BY PHOTOCOPY

"In conclusion, beware of cases involving office machine copies, even if you have a first-generation copy to work with; the writings or, in particular, the signatures may be genuine, but how did the inscriptions get to the copied document?" (2)

A copier can be used to:

1. make a fraudulent document, or
2. fraudulently alter a genuine document.

The fraudulent alteration can be accomplished by:

1. adding a false portion to the document;
2. deleting a genuine portion of the document;
3. replacing a genuine portion with a fraudulent one;

or

4. making a deliberately bad copy to hide any falsification and obstruct the investigator's efforts.

The ways in which these things can be accomplished are:

1. make a complete camera-ready paste-up and copy it; this is sometimes referred to as a composite;

2. block out a portion of the text with anything usable (such as a loose piece of paper placed exactly right, Post-it sheet, self adhesive label, correction fluid) and then copy the document;

3. paste new text onto a portion of the genuine document, either in a blank part or over text to be altered or replaced, and then copy the document;

4. run the copy through the machine again in order to add new text to it, especially a fraudulent but accurate duplicate of a genuine signature;

5. make copies of copies until one gets a copy sufficiently obscured in details; or

6. find an exceptionally ill-maintained copier and use it.

The making of camera-ready paste-ups is a quite common skill. A good quality copier in the hands of a moderately skilled operator will leave little or no trace of the composite, or of the obliterating, covering or superimposed materials. One can make a first copy, clean up any defects in it with correction fluid, and then make a quite clean product.

D. THE INITIAL INQUIRY

"While the document examiner is concerned with techniques which he might use to reveal a fraud when present, (the suspicious photocopy) is one class of problem in which it is desirable to have a good deal of background information concerning the documents." (8)

These seventeen points are generally the things the attorney should find out. It always enhances your usefulness if you can suggest the pertinent things the attorney should pursue relative to the document problem you are handling.

1. Does the original exist?
2. Who has it?
3. How can its production be forced?
4. Were other copies made? What are the dates when they were made and to whom were they given and for what reason?
5. Can their production be forced?
6. Who made which copies on which machines?
7. What references to the original is found in other documents in the case?
8. Who are the witnesses to the original? Can they be interviewed?
9. What is the interest of each witness and each person making or handling or having custody of the original and the copies in the case?
10. If the original does not exist or cannot be produced, who and for what reason destroyed, lost, or is holding back the document?
11. Are the business dealings and practices, which the document alleges, usual and reasonable for the parties?

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12. Does the party producing the copy base the entire case or a significant portion of the case on that document? If so, why the inability to produce the original?

13. Are any disinterested witnesses available to the making, custody, contents, etc. of the original document?

14. Assuming any part of the document could have been superimposed or is part of a composite, what other document could it come from and who could have supplied it?

15. Who is benefited by the suspicious copy?

16. Who is harmed by it?

17. Who could be motivated to make and produce a false copy?

E. INVESTIGATING THE COPY QUA DOCUMENT

"No misunderstanding should exist. In the study of handwriting, no copy -- regardless of the method of reproduction -- can supplant the original document." (23)

These are the principal points to cover:

1. Compare the original, if available, with the copy. Remember that a valid copy can be evidence that the original has been altered. That is one of the reasons for ascertaining what copies may have been made, other than the one you are studying, and where they might be.

2. Compare various copies of the same document according to their dates of having been made and their sources, that is the machines they were made on.

3. Does the copy itself show evidence of erasures or other kinds of alteration?

4. The more a document in copy is a key document, the more closely it should be studied.

5. Bear in mind that the copy will not show such things in the original as erasures, embossments, some obliterations such as correction fluid, watermarks, sequence of lines, exact percentage the copy is of the original, and the nature of ink and paper for the original. That is why, among other factors, you cannot definitely prove from a copy that the unseen original is a genuine document.

6. In handwriting, besides the above, there may be lost or falsely indicated such factors as pen lifts, retouching, shading, different color writing media, and light lines such as pencilled guidelines for traced forgery.

7. Whose handwriting is on the copy? Which typewriter was used? Who supplied the form for the original?

8. Get exemplars of the printed form for the original. Compare it to the copy. Were any portions of the printed form altered?

9. Compare other documents in the case with the suspicious copy. For example, could any of them be the source for a possibly superimposed signature?

F. INVESTIGATING THE COPY QUA COPY

"For best results, the submitted photocopy should be true size, sharp in detail, free from distortion, and have a moderate contrast range, showing neither too much not too little contrast." (6)

Study the suspicious copy as carefully as you would any suspicious original. Since a copy fails to copy many of the features of the original, as has been indicated several times, you approach it with far more caution than an original. Consider the following points.

1. Make controlled exemplars on machines that might have been involved. The next section will indicate the kinds of things you will want to determine from these exemplars in order to discover the copier used for the suspicious copy.

2. Do originals exist which could have been used in composite or superimposed copies, such as signatures. Can you make an illustrative fraudulent copy to illustrate either your conclusions of forgery or suspicions?

3. When multiple copies are involved, compare them for mechanical accuracies and inaccuracies. For example, copies may show bands of light print, while one copy may wash out such light material more than others do. Marks left on copies by machines can tag a copy of a copy as being derived from one copy rather than another. Various kinds of such marks will be mentioned in the next section.

4. Copier distortion or misalignment may be more evident in one portion of the suspicious copy than another. Inference: A composite document.

5. Study the vertical and horizontal alignment of the portions of typing or printing to each other and to the edges. Is there any misalignment? If so, the original might have been reinserted into the typewriter or the copy might have composite or superimposed portions.

6. When the copy was made, were page edges reproduced due to either misalignment on the copier or because the original was smaller than the copy to be made?

7. Are there any unexplained marks on the copy? What appears to be aimless strokes of handwriting may be incompletely obliterated writing. Might the copier leave such marks? Is there any other reasonable hypothesis to explain such marks?

8. Are there shadow lines from the edges of paste-ups or similar materials? The absence of such shadow lines cannot be taken as proof that there was no such paste-ups. One article reports tests showing that transparent tape used to superimposed signatures did not leave shadow lines of its edges on the copy.

9. Study the flaws and such which the copier could have made on the copy. Do these appear repeatedly on the same copy? If so, the copy may have been run through the machine more than once, adding material to the copy each time. Alternatively, it might indicate a copy of a copy.

G. INVESTIGATING THE COPIER

"Not only is it possible to determine which of many processes was used to prepare a given copy, in many cases an individual machine can be identified.... To establish that a copy was in fact made on a particular copying machine requires full analysis of the copy and the machine." (12)

To repeat what was said earlier, the document examiner must have a basic understanding of how copiers work and of the various types of copiers. Articles give reference characteristics of various machines so that you can better pinpoint the possible type of machine that made the copy you have in hand.

So, if you have a copy that is on coated paper, all plain paper copies are eliminated. If the copy shows the patterns often left by liquid toners, all dry copiers are eliminated.

Marks left by the machine will identify the particular machine, just as class characteristics might identify the make and model of machine. These defect marks derive from various parts of the copier. Principle ones are:

1. The glass is dirty. When I use public copiers as in libraries, I come to believe that I am almost the only person who notices the glass needs cleaning and wipes it off.

I recall seeing one customer in a copying business taking glass cleaner and soft towels from his briefcase before using the copier. But prolonged neglect of simple household chores can provide a long period of marking and so help date a copy.

2. The glass can be scratched or marked, and that will be reproduced on copies made on that machine, unless and until the glass is replaced. Once the glass is replaced, copies made previous to that and afterwards are dated to some degree. This is true of all defect marks from parts of the copier.

3. The lid or cover of the copier becomes dirty or

marked. If the original is smaller than the copy, the marks on the lid will be reproduced beyond the edges of the original.

On auto-feed or document-feed machines, the original is not always fed in exactly right, and thus the copy will show the misalignment of the original with portions of the feeder-cover reproduced. This can both tag copies made of that copy and indicate the machine on which the copy was made. Also, when the original is simply misplaced on the glass, its edges can be indicated by shadow lines and part of the lid can be reproduced.

4. The copier has several light-sensitive parts involved in the reception and/or reproduction of the image. The drum or other light sensitive surfaces may become scratched or marked and that will be reproduced as if it were a dark line on the original. Depending on the machine, such mark on the drum may or may not appear on every copy or at the same position on all copies.

5. The corona wires affect the quality of the copy. If the upper corona wire is soiled, the copy has a band of light print corresponding to the soiling. If the lower corona wire is soiled, a band of dark print corresponds to the soiling.

6. Any part of the feed mechanism can damage or mark the copy or affect the reproduced image. On my machine the fuser feed roller which presses the copy against the heat-bonding element had a worn area. It tended to take off toner down a strip of the copy. It was replaced. That was a temporary defect mark which would date copies made.

On the other end of my machine, when copies are printed two sided, the sheet feeder mechanism tends to smear some of the print from the underside of the top sheet onto the face of the next one. That is a permanent defect which would tend to identify my machine.

7. As mentioned several times, when a machine is serviced or repaired, the old defect marks give a reference point for dating copies. Exemplars of other copies, not relating to the case, made on the machine, along with

maintenance records, become important sources of evidence.

8. If you are so inclined and have the space and time needed, you can collect and file sample copies from various makes and models of copiers. You can keep them on hand for study as exemplars for class characteristics.

H. CONCLUDING THOUGHTS

"Occasionally, document cases are submitted for examination by people...who fail to ask the right questions.... The submitter may not fully understand the capabilities or the limitations of the forensic science of questioned documents and may fail to recognize the potential of the evidence and its capacity for examination." (18)

It is our responsibility to educate our clients, the legal profession and the public about the value and necessity of our services. I have had attorneys tell me: "I have never had a forged document." In which case, if I were a forger, I would note the name and target as a good prospect!

I am certain that whether or not our business is slow, forgers are out there making opportunities for us to make a living. We just have to get the victims aware of when to be suspicious and when to call us in.

Maybe there should be stricter laws, or at least a presumption of evidence, against the party whose interest depends on a document the party has the care of and who refuses or cannot produce the original upon reasonable request.

Almost everybody in society today has the requisite skill and access to machines to make a false copy. It would be the height of foolhardiness to assume that the millions of people who have such opportunity will not be tempted. And of those tempted, one can expect a fair share to handle temptation by the expediency of giving in.

That opens up another avenue of service the document examiner can provide: Ways of securing copy machines against unauthorized and fraudulent use.

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